

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
28 July 2005 (28.07.2005)

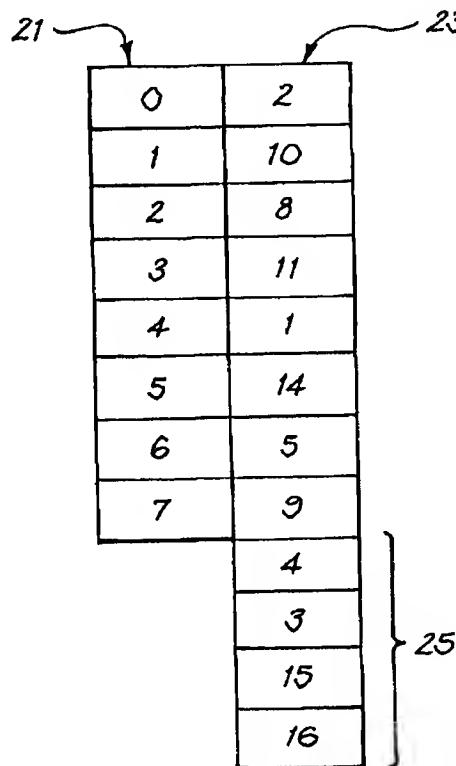
PCT

(10) International Publication Number
WO 2005/069288 A1

- (51) International Patent Classification⁷: G11B 11/00, G06F 13/12
- (21) International Application Number: PCT/SG2004/000017
- (22) International Filing Date: 19 January 2004 (19.01.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (for all designated States except US): TREK 2000 INTERNATIONAL LTD. [SG/SG]; 30 Loyang Way #07-13/14/15, Loyang Industrial Estate, Singapore 508769 (SG).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): TAN, Henry [SG/SG]; 1 Palm Drive, Singapore 456458 (SG). POO,
- Teng, Pin [MY/SG]; Blk 44 Bedok South Road #11-763, Singapore 460044 (SG). LIM, Lay, Chuan [MY/SG]; Blk 322, Bukit Batok St. 33 #03-04, Singapore 650322 (SG).
- (74) Agent: WATKIN, Timothy, Lawrence, Harvey; Lloyd Wise, Tanjong Pagar, P.O. Box 636, Singapore 910816 (SG).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: PORTABLE DATA STORAGE DEVICE USING A MEMORY ADDRESS MAPPING TABLE



(57) Abstract: A portable data storage device includes a USB controller (2), a master control unit (7) and a NAND flash memory (9) device. The master control unit (7) receives data to be written to logical addresses, and instructions to read data from logical addresses. It uses a memory address mapping table to associate the logical addresses with the physical addresses in the memory device (9), and writes data to or reads data from the physical address corresponding to the logical address. The mapping is changed at intervals, so that different ones of the physical address regions are associated at different times with the logical address. This increases the speed of the device, and also means that no physical address is rapidly worn out by being permanently associated with logical addresses to which data is written relatively often.

WO 2005/069288 A1



Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Declaration under Rule 4.17:

- *of inventorship (Rule 4.17(iv)) for US only*

Published:

- *with international search report*